REMARKS

The Rejections

Claims 1-13, 16-28 31-43 stand rejected under 35 USC 112, first paragraph as failing to comply with the written description requirement.

Claims 1-10, 12, 16-25, 27, 31-40 and 42 stand rejected under 35 USC. 103(a) as obvious in view of U. S. Patent No. 6,165,439 ("Benazzi et al.").

Claims 1-3, 6-13, 16-18, 21-28 and 31-43 stand rejected under 35 USC 103(a) as obvious in view of U. S. Patent No. 6,468,501 B ("Chen et al.")

Claim 46 is allowed.

Arguments

It is respectfully submitted that Applicants' specification satisfies the written description requirement of 35 USC 112. At page 2, lines 23-26, the specification states that the invention "relates to the use of acid treatment to a variety of calcined molecular sieves with different framework compositions and structures and the generality of this methodology for preparing a broad spectrum of molecular sieve materials." Among this "variety" of molecular sieves are zincosilicates, as represented by CIT-6 disclosed at page 2, lines 7-22 of the specification. It is submitted that, in the context of Applicants' process invention, the disclosure of CIT-6 is sufficient to place one skilled in the art in possession of the necessary information to carry out Applicants' process on zincosilicates. Accordingly, withdrawal of the rejection is requested.

Benazzi et al. discloses an NU-86 zeolite comprising silicon and at least one element T selected from aluminum, iron, gallium and boron. The preferred T element is aluminum and all of the examples use the aluminosilicate form of NU-86. The NU-86 is dealuminated by treatment with an acid at about 100°C.

It is submitted that the lack of exemplification of Applicants' borosilicates, zincosilicates or pure silica molecular sieves is insufficient to allow one of ordinary skill in the art to predict what will happen to those materials when they are treated with acid. Furthermore, Benazzi et al.'s treatment temperature of "about 100°C" is significantly lower than Applicants' treatment temperature of 135°C or 160-185°C. It is submitted that a 35+% difference in temperature is well outside the scope of the term "about".

It is submitted that there is nothing in Benazzi et al. that would allow one of ordinary skill in the art to predict the "healing" or annealing that occurs under Applicants' treatment conditions.

Chen et al. discloses a method for preparing a zeolite having lattice substituted hetero atoms. The method includes (a) contacting a calcined borosilicate zeolite with an acid, thereby producing an at least partially deboronated zeolite, and (b) contacting the at least partially deboronated zeolite with a salt-containing aqueous solution comprising one or more aluminum, gallium and iron salts. Chen et al. states that step (a) and (b) are conducted at a temperature of from about ambient temperature to about 300°C (col. 4, l. 6-8).

It is submitted that the method of Chen et al. does not render Applicants' process obvious. The Chen et al. method is used to substitute hetero atoms into zeolites. There is no suggestion of Applicants' "healing" or annealing of defects in the framework of the zeolite, or an increase in hydrophobicity achieved by Applicants' process.

Claims 10, 25 and 40 call for the treatment of Applicants' borosilicates, zincosilicates or pure-silica molecular sieves at 135°C. Claims 11, 26 and 41 call for such treatment at 160-185°C. Acid treatment of Applicants' molecular sieves at these temperatures results in healing of defects in the framework of the molecular sieve and a significant increase in hydrophobicity (see the specification at pg. 6, l. 29-31; pg. 7, l.10-14; and pg. 8, l. 30 to pg. 9, l. 5).

With respect to the temperature range disclosed in Chen et al., it is submitted that the range (about ambient to 300°C) is so broad as to constitute merely an invitation to try various temperatures. It lacks the specificity to lead one of ordinary skill in the art to Applicants' temperatures of about 135°C or about 160°C to about 180°C.

From the foregoing, it is submitted that Applicants' claims are in full compliance with 35 USC 112, and that the claimed invention is novel and nonobvious in view of the cited art. Accordingly, allowance of all claims is requested.

Respectfully submitted,

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